REMARKS

Responding to paragraph 1 of the Office Action, the applicants thank the Examiner for withdrawing the final rejection.

Responding to paragraphs 2-3 of the Office Action, the rejection of claims 11, 13, 14 and 16-29 under 35 U.S.C. 103(a) as being unpatentable over Aranguren et al. (U.S. Patent No. 5,553,071, "Aranguren") is respectfully traversed. As stated in Amendment A, it is believed that the subject matter of the various claims was commonly owned at the time any inventions covered by the claims were made.

Regarding the claim rejection, the Examiner states (page 3):

> Although Aranguren et al. fails to specifically disclose the feature of dividing an even number W of channels in each link into two sets and i is greater or equal to W/2, providing a star network configuration such that channel i on any link may be connected to channel w(i) on any other links, where w(i)=I+W/2, which is a simple network configuration algorithm and well known in the art, which can be easily adopted by one of ordinary skill in the art into the network of Aranguren et al. to provide a specific network configuration as needed to satisfy the requirement from the users.

The applicants note that the Examiner has not provided any reference teaching the subject matter that Aranguren fails to disclose in any context, much less a network of the type claimed and that the Examiner's assertion appears to be merely a hindsight application of the applicants' own teaching without any support in the prior art. To the extent that the Examiner's statement is Official Notice of "common knowledge" pursuant

to MPEP § 2144.03, the applicants traverse the Official Notice. The assertion by the Examiner is rebutted by the prior art cited by the Examiner against this application, none of which teaches or suggests the asserted subject matter said to be "well known." Thus, there is no reason to believe that the subject matter was known as of the time of the invention in any art analogous to the invention. For the foregoing reasons, the applicants respectfully request that the Examiner supply documentary evidence to support the statement of what is "well known" as provided in MPEP § 2144.03 (C).

If the Examiner is not relying on "common knowledge" pursuant to MPEP § 2144.03, then there is no support in the record for the Examiner's statement that what Aranguren fails to disclose is found anywhere in an analogous art, and the rejection under § 103 should be withdrawn.

Contrary to MPEP § 707.07(g), the Examiner has offered no reason for rejection of the dependent claims and has not applied any prior art to such dependent claims. Thus, the undersigned has no reasonable basis for amending or commenting on any of the dependent claims, and they are believed to be allowable.

Pending claim 11 reads as follows (emphasis supplied).

> 11. In a star network having a plurality of *N* nodes interconnected by a plurality of links, with one of the nodes being the *hub* node *h* and the other of the nodes being $\{x_1,\ldots,X_{N-1}\}$ *spoke nodes* connected to the hub node by links each having a plurality of *W* channels going into the hub node h and out of the hub node h, where W is even, a method of configuring the nodes comprising:

(a) dividing the channels into two sets, with each set having W/2 channels, where the first set has channels numbered $\{0,\ldots,W/2-1\}$ and the second set has channels numbered $\{W/2,\ldots,W-1\}$; and

(b) configuring the hub node such that channel *i* on any one of the links may be connected to channel *w(i)* on any of the links, where *w(i)* equals *i* + W/2 and where *i* is no greater than W.

Aranguren does not teach or suggest at least the underlined portions of claim 11. Regarding the limitation that W is even for the W channels of each link, Aranguren teaches away from that concept. As stated in Col. 5, lines 24-34, the channels of links 482 are allocated to or allocated away from particular end devices 411 based upon demand. Thus, the numbers of channels for the various links are not an even number, but rather are a variable number as needed. Claim 11 is allowable for this reason alone.

Regarding limitations (a) and (b) of claim 11, the Examiner concedes that Aranguren fails to disclosed them. Contrary to the Examiner's assertion, these limitations are not believed to be well known, and the Examiner has provided no evidence to the contrary. Claim 11 also is allowable for these reasons.

Pending claim 13 reads as follows (emphasis supplied):

13. In a star network having *N* nodes with one of the nodes a hub node, wherein each of the other of the nodes is connected to the hub node by a multichannel link having *W* channels, where *W* is an even integer, a star network configured as follows:

the hub node configured such that channel *i* on any one of the links may be connected to channel *w(i)* on any other of the links, where *w(i)* = (i + W/2) and where *i* is no greater than *W*.

Aranguren does not teach or suggest at least the underlined portions of claim 13. Regarding the limitation that W is even for the W channels of each link, Aranguren teaches away from that concept as explained in connection with claim 11.

Regarding the underlined paragraph of claim 13, the Examiner concedes that Aranguren does not disclose it. Contrary to the Examiner's assertion, the limitations of the last paragraph are not believed to be well known, and the Examiner has provided no evidence to the contrary. Claim 13 is allowable for these reasons alone.

Regarding the phrase "where i is no greater than W," the Examiner does not assert that it is taught by Aranguren or that it is "well known." There is nothing in the record asserting, much less establishing, that this phrase is other than novel. For all the foregoing reasons, claim 13 is allowable.

Pending claim 14 reads (emphasis supplied):

14. In a network consisting of *N* nodes and *E* links e_1, e_2, ...e_E, wherein *N* and *E* are any integer and wherein each link between nodes is a multichannel multiplexed link, consisting of *W* channels {0, 1, ..., W – 1}, where *W* is even, a method of configuring the nodes in the network comprising:

(a) grouping channels into two sets, $\{0,\ldots,W/2-1\}$ and $\{W/2,\ldots,W-1\}$; and

(b) at each node, for $i = 0, 1, \ldots, W/2 - 1$, connecting channel i on one link to channel $w(i)$ on all the other links incident on that node, where $w(i) = i + W/2$.

Aranguren does not teach or suggest at least the underlined portions of claim 14. Regarding the limitation that W is even for the W channels of each link, Aranguren teaches away from that concept as explained in connection with claim 11.

Regarding limitations (a) and (b) of claim 14, the Examiner concedes that Aranguren does not disclose them. Contrary to the Examiner's assertion, the limitations are not believed to be well known, and the Examiner has provided no evidence to the contrary. Claim 14 is allowable for these reasons.

In limitation (b), the claimed connecting occurs at each node. The Examiner does not assert that Aranguren teaches this concept or that it is "well known." There is nothing in the record asserting, much less establishing, that this concept is other than novel. For all the foregoing reasons, claim 14 is allowable.

Pending claim 16 reads (emphasis supplied):

16. A network having N nodes and E links for interconnecting the nodes where N and E are any integer, where each link is a multichannel multiplexed link having W channels, and where W is even, a network configured as follows:

each node, for $i = 0, 1\ldots., W/2 - 1$, channel i on one incident link connected to channel $w(i)$ on all other incident links of each node, where $w(i) = i + W/2$.

Aranguren does not teach or suggest at least the underlined portions of claim 16. Regarding the limitation that W is even for the W channels of each link, Aranguren teaches away from that concept as explained in connection with claim 11.

Regarding the underlined paragraph of claim 16, the Examiner concedes that Aranguren does not disclose it. Contrary to the Examiner's assertion, the limitations of the underlined paragraph are not believed to be well known, and the Examiner has provided no evidence to the contrary. Claim 16 is allowable for these reasons.

In the underlined paragraph, the claimed connection occurs at each node and involves incident links. The Examiner does not assert that Aranguren teaches this concept or that it is "well known." There is nothing in the record asserting, much less establishing, that this concept is other than novel. For all the foregoing reasons, claim 16 is allowable.

Pending claim 17 reads as follows (emphasis supplied):

17. In a star communication network comprising a hub node and a plurality of spoke nodes and comprising a plurality of links coupled between the hub node and the plurality of spoke nodes, <u>each</u> link being arranged to carry a plurality of W channels into the hub node and out of the hub node, a method of configuring the network comprising the steps of:

limiting the *W* channels to an <u>even</u> number;

<u>dividing the *W* channels into a first group and a second group in each of the links;</u>

connecting each channel of the first group of one of the links to one channel of the second group of each of the links other than the one link; and

assigning no more than *W* channels to the transmission of data along any of the links, whereby the efficiency of the configuring is improved.

Aranguren does not teach or suggest at least the underlined portions of claim 17. Regarding the limitation that W is even for the W channels of each link, Aranguren teaches away from that concept as explained in connection with claim 11.

Regarding the dividing step of claim 17, the Examiner concedes that Aranguren does not disclose it. Contrary to the Examiner's assertion, the limitations of the dividing step are not believed to be well known, and the Examiner has provided no evidence to the contrary. Claim 17 is allowable for these reasons.

Regarding the concepts claimed in the last two paragraphs of claim 17, the Examiner does not assert that Aranguren teaches these concepts or that that they are "well known." There is nothing in the record asserting, much less establishing, that these concepts are other than novel. For all the foregoing reasons, claim 17 is allowable.

Pending claim 20 reads as follows (emphasis supplied):

20. A star communication network comprising in combination:

a plurality of spoke nodes;

a hub node; and

links coupled between the hub node and the plurality of spoke nodes, each link being arranged to carry a plurality of W channels into the hub node and out of the hub node, the channels being divided into a first group and a second group where *W* is even, the hub node connecting each channel of the first group of one of the links to one channel of the second group of each of the links other than the one link.

Aranguren does not teach or suggest at least the underlined portions of claim 20. Regarding the limitation that W is even for the W channels of each link, Aranguren teaches away from that concept as explained in connection with claim 11.

Regarding the concepts of the last three lines underlined in claim 20, the Examiner does not assert that Aranguren teaches these concepts or that they are "well known." There is nothing in the record asserting, much less establishing, that these concepts are other than novel. For all the foregoing reasons, claim 20 is allowable.

Pending claim 24 reads as follows (emphasis supplied):

24. In a star communication network comprising a hub node and a plurality of spoke nodes and comprising links coupled between the hub node and the plurality of spoke nodes, each link being arranged to carry a plurality of *W* channels into the hub node and out of the hub node, a method of configuring the network comprising the steps of:

assigning no more than W channels to the transmission of data along any of the links; and

connecting each channel of a first one of the links to no more than two channels of a second one of the links through the hub node, whereby the efficiency of the configuring is improved.

Aranguren does not teach or suggest at least the underlined portions of claim 24. Regarding the concepts claimed in the underlined paragraphs of claim 24, the Examiner does not assert that Aranguren teaches these concepts or that that they are "well known." There is nothing in the record asserting, much less establishing, that these concepts are other than novel. For all these reasons, claim 24 is allowable.

Claim 25 is analogous to claim 24 with respect to the rejections, and is allowable for the same reasons as claim 24.

Pending claim 26 reads as follows (emphasis supplied):

26. In a star communication network comprising a hub node and a plurality of spoke nodes and comprising links coupled between the hub node and the plurality of spoke nodes, each link being arranged to carry a plurality of no more than W channels into the hub node and out of the hub node, a method of configuring the network comprising the steps of:

assigning no more than W channels to the transmission of data along any of the links; and

connecting each channel of a first one of the links to no more than a second channel of a second one of the links through the hub node, where the second channel is different from the first channel of the second one of the links.

Aranguren does not teach or suggest at least the underlined portions of claim 26. Regarding the concepts claimed in the underlined paragraphs of claim 26, the Examiner does not assert that Aranguren teaches these concepts or that that they are "well known." There is nothing in the record asserting, much less establishing, that these concepts are other than novel. For all these reasons, claim 26 is allowable.

Claim 27 is analogous to claim 26 with respect to the rejections, and is allowable for the same reasons as claim 26.

Claim 28 is analogous to clam 17 with respect to the rejections, and is allowable for the same reasons as claim 17.

Claim 29 is analogous to clam 24 with respect to the rejections, and is allowable for the same reasons as claim 24.

As previously stated, the Examiner has not applied any prior art to any of the dependent claims. As a result, each of these claims is allowable.

Responding to paragraph 4 of the Office Action, the Examiner's statement that claims 30 and 31 are allowed is gratefully acknowledged.

As a result, it is believed that all claims now pending in this application, claims 11, 13-14, and 16-31 are in condition for allowance, and such action is respectfully solicited.

If the foregoing remarks are not deemed to put the application in condition for allowance, the undersigned respectfully requests the Examiner telephone the undersigned and arrange a time for a telephone interview.

Date: December 22, 2003 Respectfully submitted,

Ronald E. Larson
Reg. No. 24,478
Attorney for Applicants

McAndrews, Held & Malloy, Ltd.
500 W. Madison, 34th Floor
Chicago, IL 60661
312 775-8000